

Remarks

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Amendments to the Specification

The Examiner asserts that the title is not descriptive or clearly indicative of the invention to which the claims are directed. As such, Applicants have requested that the title be changed to “Fuel Cartridge with Flexible Liner Containing Insert.”

The Examiner also asserts that Applicants have improperly used trademarks in the application. The specification has been amended once to correct any conceivable instance of mis-use.

Finally, the Examiner objected to the disclosure over the status of nonprovisional applications. The statuses of the relevant applications have been updated and the specification amended where appropriate.

Reconsideration of Restriction Requirement

The Examiner previously made a Restriction Requirement in the present application in the Office Action dated March 20, 2006. In a reply filed on May 5, 2006 Applicants elected to prosecute Group I and Species 2, including claims 1-9 and 14-50. The Examiner treated the election as one without traverse.

Applicants respectfully request reconsideration of the Restriction Requirement as it was improper. Pursuant to MPEP § 803, an application may be required to be restricted to one of two or more claimed inventions *only* if the two criteria for proper requirement for restriction are met:

- (A) The inventions must be independent or distinct as claimed, *and*
- (B) There must be a serious burden on the examiner.

MPEP § 803 also provides that if the search and examination of an entire application can be made without serious burden, the examiner must examine the entire application on the merits, even though the application includes claims drawn to independent or distinct inventions.

The Examiner asserts that the inventions of Groups I and II are related as combination and sub-combination, but are independent or distinct because the Group I invention does not require specific relief valves. The Examiner also asserts that Species 1-8 are independent or distinct because they are directed at mutually exclusive embodiments that are non-overlapping in scope. Finally, the Examiner asserts that the inventions of Groups I and II require different fields of search in maintaining the propriety of the Restriction Requirement. However, the Examiner is silent as to whether these different fields of search represent a serious burden.

Applicants respectfully direct the Examiner's attention to a search by the International Searching Authority ("ISA") in the international application, PCT/US04/25424, which claims priority to the present application. This PCT application and the present invention are substantially identical and have the exact same claims. In the International Search Report ("ISR"), mailed on December 21, 2004, claims 1-110 were all searched and examined together on the merits. No lack of unity of invention was found. While Applicants recognize that the standards of unity of invention in the ISA and independent or distinct inventions in the USPTO are not identical, the fact that a single search was made on all 110 claims of the present invention by the USPTO acting as the ISA is sufficient evidence that such a search would not place a serious burden on the Examiner. This ISR was submitted in a supplemental information disclosure statement on or about February 17, 2006 and is therefore a part of the present record. The ISR also shows that the authorized officer who conducted the ISR is the same officer as the Examiner in the present prosecution. As such, Applicants respectfully request withdrawal of the Restriction Requirement and examination on the merits of all claims of the present invention, because the different fields of search would not represent a serious burden on the Examiner.

The Applicants specifically take no position as to the independence and/or distinctiveness of the invention or inventions set forth in the present application. No such position is necessary to request withdrawal this Restriction Requirement.

Rejections Under 35 U.S.C. § 112

Claims 1-9 and 14-50 are rejected under 35 U.S.C. § 112 as being indefinite. The Examiner asserts that the claims fail to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Claim 1 is rejected as having insufficient antecedent basis for “the inner liner.” The Examiner asserts that it is unclear whether “the inner liner” refers to an earlier recited “flexible inner liner.” To clarify and move the case toward allowance, claim 1 has been amended to replace “the liner” with “the flexible inner liner.” As a result, claim 1 and all claims which depend therefrom and add further limitation thereto are no longer indefinite.

Claim 2 is also rejected as having insufficient antecedent basis for the limitation of “the walls.” The claim has now been amended to note that the liner comprises at least one wall.

Claim 3 is also rejected as having insufficient antecedent basis for the limitation of an “integral insert.” The claim has now been amended to simply recite “the insert.”

Claims 32 and 37 are also rejected as being indefinite. The Examiner asserts that these claims include elements not actually disclosed, specifically the phrase “poppet-type valve” describing the first and second relief valves. Applicants respectfully disagree with the Examiner’s assertion. Paragraph [0025] of the corresponding published application, U.S. Pub. No. 2005/0023236 A1, discloses in the Summary of the Invention that “[p]referably, the first relief valve is a poppet-type valve.” Paragraph [0026] similarly notes that “[p]referably, the second relief valve is a poppet-type valve.” Furthermore, in the Detailed Description of the Preferred Embodiments, paragraph [0050] discloses that “cartridge 10 comprises a unidirectional relief valve 20, commonly known as a poppet valve or poppet-type valve.” The term “poppet-type valve” is one commonly known and used in the art and is sufficiently definite to overcome a rejection under 35 U.S.C. § 112. As further proof, a simple textual search of issued patents since 1976 using the USPTO website yields 52 patents with the phrase “poppet-type valve” in the claims alone. When searched throughout the entire patent, 244 patents contain the phrase.

Rejections Under 35 U.S.C. § 102(e)

Claims 1-9, 14-15, 17-32, 38-47, and 50 are rejected under 35 U.S.C. § 102(e) as being anticipated by Lawrence *et al.*, U.S. Pub. No. 2002/0197522, heretofore Lawrence. The Examiner asserts in paragraph 14 of the Office Action that Lawrence discloses a fuel cartridge

wherein the fuel cartridge includes an expandable (thus *flexible*) fuel bladder for receiving liquid fuel, an expandable (thus *flexible*) pressure member in contact with the bladder for maintaining a positive pressure on the bladder, and a sealable exit port in fluid communication with the bladder (ABSTRACT). **Figures 7 and 10-11** [omitted] below illustrate the configuration of the fuel cartridge including an insert inside the cartridge. *It is also contended that the fuel per se inside the container is also an insert disposed inside the inner liner.*

(Emphasis in original):

Applicants respectfully disagree with the Examiner's assertions. Claim 1 of the present invention recites

an inner flexible liner containing **fuel** for the fuel cell, wherein the inner flexible liner comprises an insert disposed inside the inner flexible liner to facilitate the transport of fuel from the cartridge to the fuel cell.

(Emphasis added)

Claim 1 recites both "fuel" and "insert." Hence, fuel is not an insert as these terms are used in claim 1. Hence, the Examiner's contention that the fuel is a *per se* insert inside the fuel bladder as shown in Lawrence cannot anticipate claim 1.

Claim 1 is also rejected as being anticipated by Acker *et al.*, U.S. Patent No. 6,460,733, heretofore Acker. The Examiner asserts in paragraph 15 of the Office Action that Acker discloses a fuel container including an outer casing, an inner tank which is a flexible bladder, and an additive that may be placed within the inner tank, citing COL. 6, lines 53-69. Thus, the Examiner asserts Acker discloses an insert and anticipates claim 1.

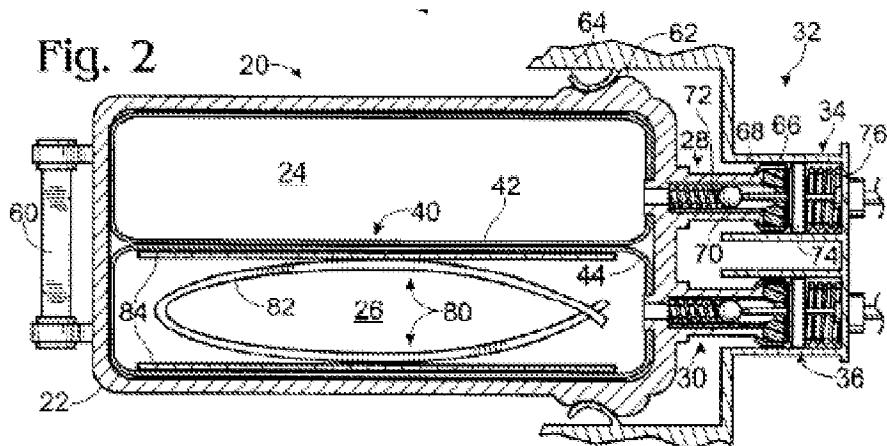
Applicants respectfully traverse the rejection based on Acker. Taking into context the portion cited by the Examiner, in Acker, the additives and the fuel are stored separately during the useful life of the fuel container and only become mixed at the end of the fuel container's useful life, at which point the additives mix with and neutralizes the fuel for regulatory/safety purposes (*see* FIGS. 7A-7B and col. 6, lines 19-59). The additives cited in Acker do not function to "facilitate the transport of fuel" as recited in claim 1.

Additionally, Acker discloses that when the fuel is stored inside the flexible container, the additives are stored outside of it, and vice versa. Contrarywise, claim 1 recites that both the fuel and insert are stored inside the inner flexible bladder.

Claim 1 is also rejected as being anticipated by Prasad et al., U.S. Pub. No. 2003/0082427, heretofore Prasad. The Examiner asserts that Prasad discloses a fuel supply including a fuel storage area, a fuel outlet, a waste storage area, a waste inlet, and a movable barrier separating the fuel storage area and the waste storage area. The Examiner further asserts that because each of fuel solution outlet 28 and waste inlet 30 includes a redundant self-sealing valve system, it has an insert and anticipates claim 1.

Applicants respectfully disagree with this assertion. As can clearly be seen by FIG. 2 from Prasad below, the alleged redundant insert is disposed outside of fuel storage area 24 and outside flexible inner container 42.

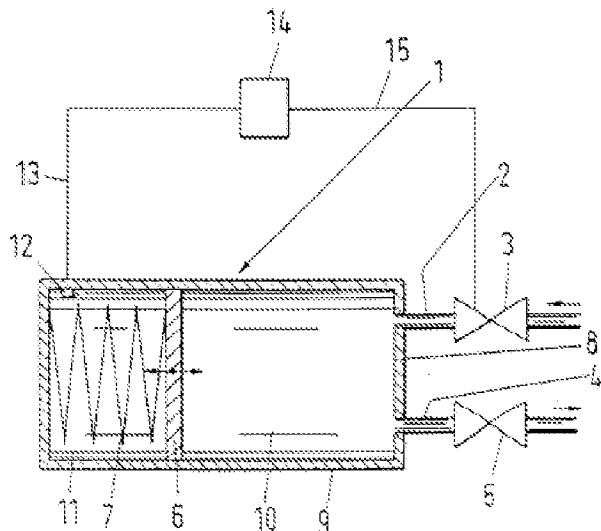
Fig. 2



On the other hand, claim 1 in the present invention recites that “the inner flexible liner comprises an insert disposed *inside* the inner flexible liner” (emphasis added). As such, Prasad cannot anticipate the present invention.

Claim 1 is also rejected as being anticipated by Herdeg et al., U.S. Patent No. 6,610,433. The Examiner asserts that Herdeg discloses a fuel tank having a cavity of variable size and a mechanism for compressing the fuel cavity. The Examiner further asserts that Herdeg has an insert because the fuel cavity shown in FIG. 1 below is bounded by a cylindrical inner wall 9, a circular end surface of the fuel tank, and an intermediate wall 6, and thus anticipates claim 1.

Fig. 1



Applicants respectfully disagree with this assertion. First, while Herdeg discloses a mechanism for compressing the fuel cavity, nothing is disclosed about a flexible liner or bladder, as claimed in claim 1 of the present invention. Herdeg merely discloses a spring 7 that can be used to push against intermediate wall 6. Secondly, Herdeg provides that intermediate wall 6 supplies a seal in between fuel cavity 10 and remaining space 11. Applicants contend that because a seal is formed in between them, reference numerals 10 and 11 represent 2 *separate* cavities. Herdeg itself denotes reference numeral 10 as the fuel cavity, and it is evident that there is no insert within fuel cavity 10. Because claim 1 of the present invention includes the limitation of an insert disposed within the inner flexible fuel containing chamber, it cannot be anticipated by Herdeg.

Finally, claim 1 is rejected as being anticipated by Kinkelaar et al., U.S. Pub. No. 2003/0008193, heretofore Kinkelaar. The Examiner asserts that Kinkelaar discloses a liquid fuel delivery system for a fuel cell that includes a liquid fuel container and a reservoir structure within the container from which the fuel may be metered. The Examiner further asserts this reservoir structure is an insert that anticipates claim 1 of the present invention.

Applicants respectfully disagree with this assertion. Claim 1 of the present invention recites a fuel cartridge comprising an outer casing and a flexible inner liner,

wherein an insert is disposed within the flexible inner liner. Whether or not the reservoir structure in Kinkelaar constitutes an insert is irrelevant because Kinkelaar does not disclose a fuel container (cartridge) with both an outer casing *and* a flexible inner liner. As such, it does not teach all of the elements of claim 1 and cannot anticipate it.

Because claim 1 is not anticipated by any of the above references, it is patentable. Claims 2-9, 14-15, 17-32, 38-47, and 50 all depend upon claim 1 and add further limitations thereto, and therefore are patentable for that reason alone.

Rejections under 35 U.S.C. § 103(a)

Claims 16, 33-37, and 48 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lawrence et al., U.S. Pub. No. 2002/0197522, in view of Prasad et al., U.S. Pub. No. 2003/0082427. In order for an obviousness rejection to be appropriate under § 103(a), the combination of references must teach or suggest all of the claim's limitations. However, for the reasons stated above in the 35 U.S.C. § 102(e) rejection discussion, neither Lawrence nor Prasad teach or suggest the limitation of an insert disposed within a flexible inner liner to facilitate the transport of fuel. Because claims 16, 33-37, and 48 depend upon claim 1 and recite further limitations thereto, they cannot be rendered obvious by the Lawrence in view of Prasad and are patentable.

Claim 49 is rejected under § 103(a) as being unpatentable over Lawrence in view of Prasad as applied to claim 48, and further in view of Ramanathan et al., U.S. Pub. No. 2004/0096610. The Examiner asserts that Ramanathan discloses that it is known in the art to make fuel tanks by using polytetrafluoroethylene. However, Ramanathan does not teach or suggest an insert disposed within a flexible inner liner to facilitate the transport of fuel. Claim 49 depends upon claim 1 and adds further limitations thereto, and is therefore patentable in view of Lawrence, Prasad, and Ramanathan.

Applicants reserve the right to support further the patentability of these claims, should that become necessary.

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the

present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Applicants believe that no fees are due in connection with the submission of this Response. If any fee is due, the Commissioner may charge appropriate fees to H.T. Than Law Group, Deposit Account No. 50-1980.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

Date: June 23, 2006 /H.T. Than/

H.T. Than

Attorney for Applicants
Registration No. 38,632
The H.T. Than Law Group
Waterfront Center
1010 Wisconsin Ave., NW, Suite 560
Washington, D.C. 20007
(202) 363-2620

Attachments:

Replacement Drawing Sheet
Annotated Drawing Sheet